Patent Claims

1. Method for discovering suitable chromatography parameters for the separation of biological molecules, consisting of the following method steps

   a) different chromatography media are arranged in a location-dependent manner on a multiwell plate defined by columns (X direction) and rows (Y direction) as matrix, on the matrix points of the plate defined by the matrix in the respective cavities therein, where the chromatography media consists on the one hand of materials (B) which bind the biological sample and on the other hand of materials (NB) which do not bind the biological sample,

   b) the different chromatography media are brought into contact with a biological sample in the respective cavities,

   c) where the chromatography media are arranged in the individual cavities of the multiwell plate in such a way that on the one hand a chromatography medium from group B and group NB is present in each individual cavity, but on the other hand this chromatography medium from group B and group NB differ at least in a single parameter,

   d) the biological sample located in the respective cavities is separated into biomolecules bound to binding materials and biomolecules not bound to binding materials,

   e) the bound and not-bound molecules of the biological sample are analysed for each individual cavity depending on the chromatography medium located in the respective cavity.

2. Method according to Claim 1, where the biological sample is purified or unpurified proteins, peptides, nucleic acids of all types, carbohydrates, lipids and other biomolecule substance classes or low-molecular-weight metabolism products or mixtures thereof.

3. Method according to Claim 1, where the chromatography media of the materials binding the biological sample (group B) are selected from solid particles having the property of absorbing biomolecules, such as, for example, affinity chromatography media, anion exchangers, hydrophobic interaction chromatography media, hydroxylapathite chromatography media, cation exchangers, metal affinity chromatography media, reversed-phase materials.

4. Method according to Claim 1, where the chromatography media of the compounds not binding the biological sample (group NB) are selected from organic and/or inorganic acids, bases, salts, derivatives thereof or solvents of all types, and aqueous solutions thereof.

5. Method according to Claim 1, where agents for stabilisation of the biological sample are selected from, for example: glycerol, sucrose, sodium molybdate, ethylene glycols, urea, guanidinium chloride, betaine, taurine, DTE, DTT, EDTA, EGTA, monothioglycerol, detergents, polyethylene glycol (PEG), chloroform, methanol, H_2O, protease inhibitors.

6. Method according to Claim 1, where the duration of the bringing into contact of the biological sample with the chromatography media can be freely selected.

7. Method according to Claims 1 to 7, where the method is automated.

8. Kit for discovering suitable chromatography conditions in the separation of biological molecules by the method according to Claim 1 to 7, consisting of at least

a) a multiwell plate which is defined by columns (X direction) and rows (Y direction) as matrix, where different chromatography media are arranged in a location-dependent manner on the matrix points of the plate defined by the matrix,

b) different chromatography media for stocking the matrix points.

9. Kit according to Claim 8, which contains software for the evaluation, identification and interpretation of the by the method according to Claims 1 to 6.